

APPENDIX N

Environmental Justice Methodology

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Appendix N - Environmental Justice Methodology

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APPENDIX N

ENVIRONMENTAL JUSTICE ANALYSIS

This appendix presents the methodology for the additional analysis performed by the Section of Environmental Analysis (SEA) of the Surface Transportation Board (Board) to assess the potential effects of the proposed Powder River Basin (PRB) Expansion Project on environmental justice communities for the Final Environmental Impact Statement (EIS). The goals of this assessment are to:

- Identify those areas where minority and low-income communities, and
- determine if any minority or low-income communities could bear disproportionately high and adverse portions of the overall project impacts.

N.1 BACKGROUND INFORMATION

In February 1994, President Clinton issued Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This Order urges Federal agencies to make environmental justice part of their mission. The Order requires Federal Executive Branch agencies, and requests independent agencies, to conform to existing laws to ensure that their actions:

- Do not discriminate on the basis of race, color, or national origin.
- Identify and address the "disproportionately high and adverse human health or environmental effects" of their actions on minority and low-income populations.
- Provide opportunities for community input in the National Environmental Policy Act (NEPA) process, including input on potential effects and mitigation measures.

Although the Board is not a Federal Executive Branch agency, SEA conducted an environmental justice analysis because:

- The President requested agencies to comply with the Order (see Section 6-604 of the Order), particularly during the NEPA process.
- The U.S. Department of Transportation (DOT) Order, Council on Environmental Quality (CEQ), and U.S. Environmental Protection Agency (EPA) guidance emphasize addressing environmental justice concerns in the NEPA context.

- The Board is responsible for ensuring that this proposed transaction is consistent with the public interest.

In the context of the proposed PRB Expansion Project, SEA determined that the Executive Order, Federal agency guidance, and public interest warranted addressing:

- Whether the proposed project would have disproportionate high and adverse impacts on minority and low-income communities, and if so,
- Whether disproportionately high and adverse impacts could be eliminated or mitigated with reasonable and feasible mitigation measures, and
- Whether it is appropriate to modify recommended mitigation measures to meet the needs of a disproportionately affected minority or low-income population.

N.2 SUMMARY OF ENVIRONMENTAL JUSTICE ANALYSIS METHODOLOGY

To evaluate the potential for disproportionately high and adverse impacts from the proposed project on environmental justice communities, SEA used a methodology based partly on the ones it employed in the recent Conrail Acquisition¹ and the CN/IC Acquisition.² To develop these methodologies, SEA examined relevant documents from other Federal agencies, including the following:

- Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," February 11, 1994, 59 Federal Register at 7630.
- U.S. Department of Transportation's Order "To Address Environmental Justice in Minority Populations and Low-Income Populations," February 3, 1997.

¹ Surface Transportation Board, Conrail Acquisition, Finance Docket Number 33388, Final Environmental Impact Statement, Appendix M, "Cumulative Impacts Methods and Analysis," 1998, provides a complete description of the methods used in environmental justice evaluation of the Conrail Acquisition.

² Surface Transportation Board, CN/IC Acquisition, Finance Docket Number 33556, Final Environmental Assessment, Appendix L, "Environmental Justice Analysis Methods and Results," 1998, provides a complete description of the methods used in environmental justice evaluation of the CN/IC Acquisition.

- U.S. Environmental Protection Agency, "Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis, Office of Federal Activities," September 30, 1997.
- Council on Environmental Quality, "Environmental Justice: Guidance Under the National Environmental Policy Act," Executive Office of the President, December, 1997.
- U.S. Environmental Protection Agency, "Interim Guidance for Investigating Title VI Administrative Complaints Challenging Permits," February, 1998.

SEA's previously employed methodologies and the other noted relevant documents provided SEA guidance on how to approach the evaluation of project effects to environmental justice communities. However, the PRB Expansion Project, while containing some similarities, presented unique challenges and circumstances not encountered by SEA in its previous acquisition cases.

In each of these proposals, impacts to environmental justice communities would primarily result from changes to the natural or human environment due to an increase in rail traffic. In previous acquisition cases, increases in rail traffic resulted primarily in increases in noise levels, air emissions, traffic delays, and transportation of hazardous materials along specific sections of rail line and reductions in safety at grade crossings. SEA evaluated each of these impact areas to determine (1) if these changes would result in significant impacts, (2) if significant impacts would occur to environmental justice communities, and (3) if impacts to environmental justice communities would be disproportionately high and adverse. In these rail acquisitions, this analysis was conducted on a system wide basis, with SEA examining every rail line segment³ anticipated to experience an increase in rail traffic that would exceed the Board's thresholds presented in 49 CFR 1105.7. When significant impacts to environmental justice communities were identified, including any disproportionate impacts, rail traffic could often be rerouted to avoid the segments where these impacts were determined. This would reduce the level of rail traffic, and thus the level of impact along those segments, often without significantly impacting the segments identified for rerouting.

³ A rail line segment represents a section of rail line between route decision points. That is, a section of rail line upon which a train cannot be rerouted. A segment begins at the point where trains from two or more sections of rail line could be routed or switched over a consecutive section of rail line. This rail line could be a continuation of one of the section of rail line connecting to it or a new section of rail line. The segment ends at the point where a train could continue to be routed over the same line or be switched onto another rail line.

The PRB Expansion Project presents the potential for environmental justice communities to be disproportionately impacted through both new rail line construction and increases in rail traffic. While alternatives exist for new rail line construction and reconstruction of short sections of DM&E's existing rail line, as discussed in the Draft EIS (Chapter 2), no such alternatives for routing of rail traffic exist for the majority of DM&E's existing rail line, which would be rebuilt and experience increases in rail traffic as a result of this proposal. This means that since the increase in rail traffic would originate at the western end of DM&E's main line, travel to the eastern end of the rail line, and then return to the western end of the rail line, all areas of the existing rail line would experience the same increase in rail traffic and no alternatives for rerouting this traffic are currently available.⁴ While this limited SEA's analysis is to only one section of rail line, having the same level of rail traffic along the entire rail line challenged SEA to develop a means to differentiate impacts to communities along the rail line, both for purposes of determining if significant impacts would occur and whether disproportionately high and adverse impacts would be borne by environmental justice communities. The following sections describe SEA's methodology developed and used for this proposal.

N.2.1 Methodology to Determine Environmental Justice Communities

SEA's first step in evaluating project related impacts to environmental justice issues was to identify potential environmental justice communities that could be affected by the proposed project by identifying them based on low-income status, as well as the percentage of minorities for each census block group.

The proposed project involves Minnesota, South Dakota, and Wyoming. These three states lie within different administrative boundaries for regional offices of the Environmental Protection Agency (EPA), Region 8 for South Dakota and Wyoming, and Region 5 for Minnesota. Consultation with these regions during preparation of the Draft EIS indicated differences in the definition of "low-income." Region 8 uses the Federal poverty level of the United States as the low-income threshold. Region 5 uses 1.5 times the Federal poverty level as the determinant for low-income status because individuals can be above the poverty level yet still struggling financially. SEA requested guidance from EPA on a uniform standard to be used for

⁴ DM&E indicated in its Application that several points of interchange with other rail carriers occur along its existing system and that these would likely provide opportunities to route unit coal trains to their destinations. These interchanges would reduce the level of rail traffic on DM&E's existing system east of the interchange point. However, because these interchanges are dependent on DM&E's success at acquiring contracts with specific coal users which cannot be determined at this time, any level of interchange is speculative. Therefore, SEA, as discussed in Section 3.2, evaluated the effects of DM&E transporting up to 100 MNT over its entire main line, from Wall, South Dakota, eastward to the points where it could interchange traffic with other rail carriers in Winona, Minnesota.

this project. However, EPA provided no indication of what criteria SEA should use. Therefore, because SEA has used the poverty level standard in the past and because Region 8, which covers the majority of the project area, also uses the poverty level, SEA decided to use the poverty level as the indicator of low-income status in the Draft EIS.

SEA's Original Analysis. SEA conducted an extensive analysis to determine the potential for disproportionate adverse impacts on minority or low-income communities, collectively referred to as environmental justice communities, as discussed in detail in the Draft EIS (Appendix D). SEA used data from the U.S. Bureau of Census for the census block groups (the smallest geographic unit for which both race and income information is managed) to determine if environmental justice communities potentially were located along the Extension Alternatives. SEA's criteria for classification of a census block group as having environmental justice status were the same as it had used in the prior cases:

- at least one-half of the census block group is of minority status
- at least one-half of the census block group is of low-income status
- the percentage of minority status for the census block group is at least 10 percentage points higher than for the entire county in which the census block group is located
- the percentage of low-income status for the census block group is at least 10 percentage points higher than for the entire county in which the census block group is located.

The Commenters' Concerns. SEA received comments from EPA and others involving the methodology SEA had employed in its environmental justice analysis in the Draft EIS. Additionally, commenters questioned why SEA used 1990 census data instead of more recent 2000 census data, and contended that ranchers and farmers should be considered low-income populations. Some commenters indicated that various communities along the rail line had more recent census data for the particular communities.

In its comments on the Draft EIS, EPA acknowledges the different criteria applied by Region 5 and Region 8 to identify environmental justice communities. EPA also concurred that one approach should be used to identify low-income populations. But because Region 5's criteria would be more inclusive and thus provide a more conservative analysis, EPA recommended that SEA consider income levels at and below 1.5 times the poverty level as low-income in this case. SEA has conducted additional analysis, as discussed later in this section, using Region 5's low-income criteria for this Final EIS.

Additionally, EPA recommended in its comments that SEA use state percentages for minority and low-income populations rather than the county percentages. EPA indicated that because counties are much smaller areas they may present a relatively homogeneous population, which may not be characteristic of the state as a whole. Additionally, EPA recommended that SEA compare the census block group percentages for minority and low-income populations to 1.5 times the state percentages for these groups. Classification of a census block group as either minority or low-income would be based on the census block group's percentages for these areas being equal to or greater than 1.5 times the applicable state percentage. SEA has conducted additional environmental justice analysis based on EPA's recommendations, as discussed in detail in Appendix N.

In response to comments questioning SEA's use of 1990 census data, SEA notes that it released the Draft EIS in September, 2000, at which time the 2000 census was still in-progress. During the printing and distribution of the Draft EIS, the Bureau of Census began to make available preliminary results from the 2000 census. However, these data were generally at the state or county level. SEA's environmental justice analysis requires data at the census block group level, the smallest geographic unit for which both race and income data is obtained. SEA has consulted with the Bureau of Census to determine when census block group data for the 2000 census would be available, and learned that this level of census data would not be available until the summer of 2002 or later.

SEA recognizes that some counties and cities have developed their own estimates or projections of census-type data. However, in order for SEA to conduct a valid environmental justice analysis, the methodology used to develop data for all the affected census block groups, counties, and states must be consistent. Moreover, all data must be for the same sample period. It would not be appropriate for SEA to compare census data estimated or projected for the year 1999 with similar type data projected for the year 1995. The only consistent data set available for the project area in this case is the 1990 census. While SEA recognizes that this data may be somewhat dated, it does provide a useful means of comparison between project alternatives. Therefore, SEA has conducted its additional environmental justice analysis using 1990 census data.

SEA does not believe it would have been appropriate to identify low-income populations by occupation (i.e., ranchers and farmers). Some ranchers and farmers prosper even in difficult economic times for agriculture. Thus, identifying low-income populations by annual income level, as recommended by EPA, is preferable.

SEA's Additional Analysis For This Final EIS. SEA first sought to obtain census data to determine the percentage of persons considered to be low-income (income at or below 1.5 times the national poverty level) for each of the states. SEA learned that, in contrast to the number of individuals within each census block group considered to be living in poverty, insufficient income data was available to determine the number of individuals living at or below the low-income level. This was due to data on income not being available on an individual basis at the census block level. However, income data at the census block group level were available for households. SEA consulted with EPA and determined that, given the lack of better data, it was appropriate to determine potential low-income census block groups based on the percentage of households at or below the low-income level. Therefore, SEA calculated the percentage of households for each state and census block group that would be considered low-income.

SEA next calculated the minority population percentage for each state, multiplied by 1.5, and compared it to the minority percentage for each census block group (calculated for the Draft EIS).

In order to identify any environmental justice communities potentially affected by the proposed project. SEA determined:

- the minority and low-income household population of each potentially affected area, and
- the geographic areas where these potential effects were likely to occur.

SEA began by defining the geographic areas where the potential effects could occur along the proposed new rail line and existing rail line within the project area. These areas were determined to be the "area of potential effect."

Neither the Executive Order, draft CEQ guidelines, draft EPA guidelines, nor the DOT order define how to select the "area of potential effect." Therefore, SEA reviewed the results of its impact analysis to determine an area that would offer a reasonable, practical, and uniform area to apply the varied impacts associated with the proposed project (increased noise, traffic congestion, water quality impacts, etc.) that could affect environmental justice communities. SEA found that the noise contour for the 65 dBA L_{dn} noise level resulting from horn soundings for the number of trains anticipated at the 100 million net ton level of annual coal transportation (34 coal trains daily, 3 other trains daily for a total of 37 trains daily) would be approximately 2,230 feet from each side of the rail line, a total distance of 4,460 feet. SEA determined this distance would represent the maximum area within which significant project impacts could potentially occur to environmental justice communities. This distance also represented a uniform

distance which could easily be applied to all aspects of the project, new rail line construction, as well as reconstruction of existing rail line. Additionally, the contour for horn-soundings at 65 dBA L_{dn} for 37 trains daily represented a conservative approach that likely overestimates the area of effect and is thus more inclusive of potentially affected populations. Therefore, SEA used this distance as the area of potential effect within which to identify the presence of potential environmental justice communities.

In order to identify potential environmental justice communities, SEA collected data from the U.S. Bureau of Census within which the proposed project would occur.

For purposes of environmental justice evaluation, SEA considered communities to be those assemblages of persons living within individual subdivisions, neighborhoods, or similar types of areas that comprise the many individual components of a larger town, city, or county. In many cases, these communities may occupy a small geographic area. SEA determined the census block group level to be the appropriate level at which to evaluate potential environmental justice communities. Block groups are small, statistical subdivisions of census tracts. Block group level information allowed SEA to better understand the income and racial characteristics of the people living within the area of potential effect. Therefore, SEA obtained census data at both the state level and the census block group level. These data included:

- Total number of households.
- Total minority population. SEA defined a “minority” person to be someone who is Black (non-Hispanic), Hispanic, Asian American, American Indian, Alaskan Native, or other non-Caucasian individuals.
- The total number of low-income households. Based on U.S. Department of Health and Human Services guidelines, the 1990 poverty level was \$12, 674. Therefore, SEA defined a “low-income” household as one whose median income was \$12,674 times 1.5, or \$19,011.

Following acquisition of census data for census block groups within the area of potential effect, SEA calculated:

- Percentage of minority population for each census block group.
- Percentage of low-income households, based on the new criteria. Because household incomes are provided as a range, SEA included all the households in

the income bracket of \$17,500 to \$19,999, for each census block group as low-income, as well as all households listed in other, lower income brackets.

State averages were considered to be “norms.” The term “norm” is used to indicate an average, median, or ratio established by a government agency or a general statistical computation that may be used as a standard of comparison. Income norms are set by Federal government agencies such as the Department of Health and Human Services. Racial diversity norms are developed using census block group data to calculate racial percentages for areas of concern.

In the Draft EIS, SEA used the norms established for the project counties for comparison to percentages calculated for minority population and low-income households for each census block group within the area of potential effect to determine if the census block group could potentially be considered an environmental justice community. For the Final EIS, based on the comments from EPA discussed previously, SEA conducted an additional comparison to the three project states (South Dakota, Minnesota, and Wyoming). SEA’s Final EIS criteria to determine if a census block group is an environmental justice community are:

- At least one-half of the census block group population is of minority status,
- At least one-half of the census block group households are of low-income status,
- The percentage of the minority population within the census block group is higher than 1.5 times the percentage of minority population for the entire state.⁵
- The percentage of low-income households within the census block group is higher than 1.5 times the percentage of low-income households for the entire state.⁶

⁵ Based on this new criteria for classification as environmental justice, a census block group in Minnesota would need to have a minority percentage greater than 9.9 percent to be classified as environmental justice due to minority population. For South Dakota, a census block group would need to have a minority percentage greater than 13.7 percent to be considered as environmental justice due to minority population. In Wyoming, it would be necessary for a census block group to have a minority percentage greater than 16.5 percent to be classified as environmental justice due to minority population.

⁶ Based on this new criteria for classification as environmental justice, a census block group in Minnesota would need to have a percentage of low-income households greater than 46.5 percent to be classified as environmental justice due to low-income status. In South Dakota, a census block group would need to have a low-income household percentage greater than 66 percent to be considered environmental justice due to low-income status. For Wyoming, it would be necessary for a census block group to have a low-income household population higher than 54.5 percent to be classified as environmental justice due to the percentage of low-income households.

Tables N-1 through N-3 (at the end of this appendix) provide the results of SEA's analysis to identify potential environmental justice communities. Tables N-4 through N-6 (at the end of this appendix) identify the project alternatives and communities with which each environmental justice census block group is associated.

N.2.2 Environmental Justice Impact Analysis

As noted previously, the proposed project involves both new rail line construction, for which alternatives are proposed, and reconstruction of existing rail line, for which alternatives are proposed for only a small portion of the total amount of existing rail line to be reconstructed. Under the Interstate Commerce Commission Termination Act of 1995, Pub. L. No. 104-88 (ICCTA), the Board has the authority to license new rail lines accessing new markets. Railroads are not required to seek the Board's authority to rehabilitate their existing systems. Only rail constructions that would permit a railroad to access new shippers in new markets must be licensed by the Board. However, the Board's regulations at 49 CFR 1105.7(e)(11) require analysis of the down-line operational impacts of increases in rail traffic resulting from construction of new rail line facilities, provided the Board's thresholds at 49 CFR 1105.7 are met. Because these thresholds would be met by the proposed project, SEA conducted a detailed analysis to determine the potential down-line impacts to noise, air, safety, and transportation that could result from the proposed increases in rail traffic contemplated as part of the Powder River Basin (PRB) Expansion Project that could occur to environmental justice communities.

In addition to its Application pending before the Board, DM&E is or will be seeking various other permits and approvals from the Federal cooperating agencies participating in this Draft EIS. One of these agencies, the U.S. Army Corps of Engineers (COE), will consider an application from DM&E to dredge and fill waters of the United States and adjacent wetlands as part of the reconstruction of existing rail infrastructure. As explained in the Final Scope, served March 10, 1999, COE requires that this EIS process assess the potential environmental impacts from activities associated with DM&E upgrading or rehabilitating its existing system. COE may use the Draft EIS and Final EIS as supporting information for its permitting decisions and compliance with NEPA. Normally, the Board would not examine these impacts. However, in order to prepare a document that satisfies the regulatory requirements of all the cooperating agencies, these impacts have been included in the Draft EIS and Final EIS. Therefore, SEA also considered the potential impacts to environmental justice communities associated with impacts to natural and human resources due to reconstruction of the existing rail line.

SEA evaluated the potential impacts to a wide variety of natural and human resources that could result from construction and operation of new rail facilities extending DM&E's existing system into the PRB. This analysis also included an evaluation of the potential impacts to environmental justice communities.

N.2.3 Environmental Justice Analysis - Existing Rail Line Reconstruction

SEA evaluated the potential environmental impacts to natural and human resources anticipated to occur due to reconstruction and operation of the existing DM&E rail line. SEA would not normally conduct an analysis of reconstruction related impacts. However, as discussed above, these impacts were evaluated as part of this project to satisfy the requirements of the cooperating agencies. Following completion of its analysis of the potential impacts to the human and natural resources along the existing rail line, SEA determined significant impacts could result to environmental justice communities from the proposed project in the areas of noise and grade crossing safety. SEA concluded that impacts in these areas would most likely be disproportionately borne by environmental justice communities. SEA therefore conducted an evaluation of these environmental resource areas to determine if any environmental justice communities would be disproportionately impacted by increases in noise or decreases in grade crossing safety. SEA's approach to this evaluation for each of these resources is discussed in the following sections.

N.2.4 Methodology to Determine Disproportionate Impacts - Noise

SEA determined that proposed increases in rail traffic along the existing DM&E rail line would result in significant increase in noise levels. SEA therefore, evaluated the communities located within the 4,460 foot (2,230-foot on each side of the rail line) area of potential effect. SEA utilized the following methods to determine whether or not environmental justice communities, identified within the area of potential effect, would be disproportionately impacted by the project.⁷

SEA considered a noise level in excess of 65 dBA L_{dn} to constitute a "high" and "adverse" effect to noise sensitive receptors. In conducting its analysis, SEA identified those noise sensitive receptors that would experience an increase in noise levels to a level exceeding 65 dBA L_{dn} . SEA found that such an increase could result from increased train wayside noise or increased horn soundings. However, SEA also recognized that many noise sensitive receptors experiencing noise levels greater than 65 dBA L_{dn} due to wayside noise would also be exposed

⁷ Geographic location of the relevant census blocks was analyzed using the Center for Advanced Spatial Technologies. URL: www.cast.uark.edu/

to further increases in noise levels due to horn soundings. SEA considered these noise sensitive receptors to be severely impacted by the proposed project and associated increases in noise levels. Because the goal of Executive Order No. 12898 is to determine if environmental justice communities experience disproportionately “high and adverse” effects, SEA based its evaluation of potentially disproportionate noise impacts to environmental justice communities on those noise sensitive receptors that would experience noise levels greater than 65 dBA L_{dn} due to wayside noise and were located within an area that would also experience horn soundings.

In order to determine if environmental justice communities would be disproportionately affected by noise impacts, SEA determined the number of noise sensitive receptors within each census block group within the area of potential affect that would be exposed to noise levels greater than 65 dBA L_{dn} due to both wayside and horn noise. Noise sensitive receptors currently expected to experience such noise levels were identified and counted. SEA also identified and counted those additional noise sensitive receptors within each census block group expected to experience noise levels greater than 65 dBA L_{dn} due to both wayside and horn noise at the three evaluated levels of annual rail operation, 20 million net tons, 50 million net tons, and 100 million net tons.

SEA determined a total number of noise receptors that would be considered severely impacted by rail noise and the projected noise receptors that would be severely affected at each level of increased annual rail operation for all the census block groups within the area of potential effect. SEA compared the number of existing noise sensitive receptors with the projected number of noise sensitive receptors and developed a percent increase in the number of noise sensitive receptors, for the entire county and for each individual census block group identified as a potential environmental justice community at each level of operation, that would experience severe noise impacts. The percentage increase of noise sensitive receptors at each level of rail operation was compared to the percentage increase for the county as a whole. If the increase for the county was greater than the increase for the environmental justice census block group, SEA determined the environmental justice community within that census block group would not be disproportionately impacted. If the percentage increase for the environmental justice census block group was greater than the percentage increase for the county at any level of future rail line operation, the environmental justice community within the census block evaluated was considered to potentially be disproportionately impacted by increases in noise.

SEA determined a number of potential environmental justice census block groups did not have any existing noise receptors affected by noise levels of 65 dBA L_{dn} . Since calculating the percentage of increase in noise levels was not feasible for these census block groups, SEA considered such census block groups to be disproportionately impacted if the number of noise receptors at 20 million net tons, 50 million net tons, or 100 million net tons levels of rail

operations was at least 10 percent of the total number of noise receptors affected within the county at that same level of rail operation. Table N-7 (at the end of this appendix) provides those environmental justice census blocks identified by SEA to potentially be disproportionately impacted by increases in noise levels.

N.2.5 Methodology to Determine Disproportionate Impacts - Safety

SEA considers safety to be of paramount importance. Therefore, SEA conducted a detailed analysis of the proposed project's impacts on grade crossing safety. This analysis consisted of SEA calculating the accident frequency of a grade crossing under the existing condition and comparing it to the accident frequency calculated for the same crossing under the three levels of future rail traffic being evaluated, as discussed in detail in the Draft EIS (Appendix H). Those grade crossings determined to have an increase in predicted accident frequency under one or more of the evaluated levels of rail traffic were evaluated based on significance criteria established by SEA. These significance criteria are explained in the Draft EIS (Appendix H). SEA evaluated all grade crossings predicted to have a significant increase in accident frequency to determine if the reductions in grade crossing safety at each of these crossings would result in disproportionate impacts to environmental justice communities.

Any grade crossing determined to have a significant increase in accident frequency at any level of proposed future rail operations was considered by SEA to be a high and adverse impact to safety. After identifying roadways with grade crossings at which accident frequency would be significantly increased, SEA identified all the census block groups through which those roadways having significantly impacted grade crossings either (1) pass or (2) form a boundary. Those census block groups meeting the criteria within 2,230 feet of the crossing were considered for environmental justice analysis. SEA determined that residents living in census block groups within this distance (2,230 feet or approximately 0.4 mile) would be those most likely to use the affected grade crossing on a regular basis. Residents in these census block groups would be in close proximity to the crossing, therefore, they are likely to experience a greater inconvenience when traveling to another location located across the rail line. Fewer routes without impacted grade crossings that would not result in longer travel times would be available to these residents. Therefore, the residents of these census block groups would be likely to continue to use the impacted grade crossings as a matter of convenience even after an increase in rail traffic.

Once significantly impacted grade crossings and potentially affected census block groups were identified, SEA reviewed the results of its minority and low-income analysis to determine if any of the affected census block groups were environmental justice communities.

When an environmental justice community was identified to be potentially affected by a significant reduction in grade crossing safety, SEA determined whether the census block groups was classified as environmental justice due to its low income or minority population, or both. Whichever population component lead to the environmental justice classification, SEA compared the percentage of the environmental justice community (minority, low income, or both) within the census block group to the total environmental justice population (minority, low income, or both) for all the census block groups within the county affected by the particular grade crossing. Thus, SEA compared the percentage of minority population within the environmental justice census block group with the total percentage of minority population within all the census block groups affected by the grade crossing being considered. If the environmental justice community had a higher minority percentage, project impacts to safety would be determined disproportionately borne by the environmental justice community. If the percentage of minority for all the census block groups potentially affected was greater, no disproportionate impacts to minorities were determined. The same comparison was completed for census block groups identified as low-income. If a census block group was classified as both minority and low-income, it was evaluated by both comparisons to determine which component of the census block group was impacted disproportionately. Table N-8 (at the end of this appendix) presents the results of SEA's analysis.

N.2.6 Environmental Justice Analysis - New Rail Line Construction

In evaluating the potential project impacts to environmental justice communities, SEA conducted two types of analysis. The first type of analysis was simply a comparison of the number of census block groups classified as environmental justice that would be potentially affected by the construction and operation of new rail line. This analysis consisted of identifying the number of environmental justice census blocks through which each alternative for new rail line construction would pass. For this analysis, SEA considered an alternative that would pass through a greater number of environmental justice census blocks as having greater potential impact to environmental justice communities than an alternative passing through fewer such communities. In instances where alternatives for new rail line construction would use existing rail line or follow existing rail line corridors, such as for Alternative D in the Draft EIS, or the various proposed bypass alternatives, SEA considered any environmental justice communities along the existing rail line or rail lines in the total number of potentially affected environmental justice communities. SEA identified only one environmental justice community that would be crossed by the new Extension Alternatives (Alternatives B and C). This census block group would be crossed by both Extension Alternatives. Thus both Extension Alternatives would have the same impact on environmental justice census block groups.

N.2.7 Development of Mitigation Measures for Environmental Justice Communities

SEA identified the following communities in the Draft EIS as containing environmental justice populations where disproportionately high and adverse impacts would occur as a result of the proposed Powder River Basin Expansion Project:⁸

- Rochester, Minnesota, along the existing DM&E rail line.
- Mankato, Minnesota, along the existing DM&E rail line.
- Owatonna, Minnesota, along the existing DM&E rail line.
- Brooking, South Dakota, along the existing DM&E rail line.
- Pierre, South Dakota, along the existing DM&E rail line.

Detailed public outreach plans were developed and implemented for each community for which a potential environmental justice effect has been identified. These outreach plans were included in the Draft EIS, (Appendix D).

SEA conducted additional analysis for the Final EIS that resulted in the identification of several additional census block groups in either communities not identified in the Draft EIS as containing environmental justice populations. SEA determined that none of these additional environmental justice census block groups would potentially experience disproportionately high and adverse impacts due to increased noise or reduced grade crossing safety.

N.2.8 Environmental Justice Issues for Native American Tribes

SEA recognized that many Native American Tribes have ties to the proposed project area. The traditions and beliefs of these Tribes are often deeply linked to the project area due to this area being the historic home of many of the Tribes inhabiting the Great Plains and Midwest. As such, many Tribes are interested and concerned about the impacts to these traditional areas. Many of these Tribes have participated with SEA throughout the EIS process and provided input as to the important issues and concerns of the Tribes regarding the potential impacts of this project. Interested Native American Tribes also worked with SEA to develop a Memorandum of Agreement to provide for substantive participation of Tribes throughout the project.

⁸ SEA identified additional environmental justice census block groups in Wall and Rapid City, South Dakota that would potentially experience disproportionately high and adverse impacts as a result of the proposed Alternative D. Alternative D was eliminated from consideration. Therefore, further evaluation was not conducted.

Throughout the project area, Native Americans live primarily within the numerous Reservations. Because these Reservations do not adjoin the existing rail line and are not crossed by any new construction alternatives, Native American communities were not initially identified as within the area of potential effect for environmental justice concerns, nor were they determined to experience significant impacts from the proposed project. However, SEA determined that due to the traditional ties of Native Americans to the project area, their concern for the impacts of the project on the natural resources of the area, and the large number of cultural resources in the area directly linked to Native American Tribes, it was appropriate to include those Tribes in its outreach efforts for the project. Therefore, public outreach plans were developed for each Native American Tribe that expressed interest or concern regarding the proposed project. The outreach plans were included in the Draft EIS, Appendix D.

While SEA determined that no disproportionate impacts would occur to census block groups identified as environmental justice, SEA concluded that disproportionate impacts could occur to Native American populations, particularly the various Sioux Tribes in South Dakota. In conducting additional analysis on the potential impacts of the proposed project, SEA determined that significant impacts would occur to cultural resources and Traditional Cultural Properties. These impacts would occur mainly to archaeological resources associated with Native American Tribes. Therefore, significant impact to these sites, which are an important cultural and spiritual part of Native American tradition, would result in a significant impact to Native American Tribes, a minority population.

Throughout the EIS process, SEA has recognized the potential significance of archaeological resources to Native American Tribes. SEA has initiated consultation with over 30 Native American Tribes, and, with the cooperating agencies, has worked with representatives of the Tribes to develop a Programmatic Agreement (PA) and Identification Plan (ID Plan) to address archaeological resources and provide for participation of the Tribes throughout the process of identifying and, if necessary, mitigating, potential impacts to cultural resources.

Additionally, at the suggestion of the Tribes, SEA and the cooperating agencies have worked with the Tribal representatives to develop a Memorandum of Agreement (MOA) intended to ensure that all the issues of importance to the Tribes are addressed. The MOA provides for continual participation by the Tribes in the EIS process, and affords them the opportunity to work with DM&E during project construction and operation to further address Tribal issues and concerns.

In light of the potentially significant impacts to important Tribal resources, SEA has included recommended mitigation conditions requiring compliance with MOA & PA and that no specific environmental justice mitigation is required due to these measures providing the interested Tribes continued involvement and input as to the potential impacts and mitigation associated with cultural resources and traditional cultural properties.

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**Table N-1
Minnesota Census Blocks Affected by the Proposed Project**

County	Tract	Block	Total # of Low-Income Households	Total # Of Households	% Low Income Households	At Least 50% Low Income ¹	Low Income 1.5% Rule ²	Minority Percentage	At Least 50% Minority Status ³	Minority 1.5% Rule ⁴	Project Component
Blue Earth	9701	2	141	429	32.8			1.9			Existing Line/Mankato Southern Route
	9701	3	188	575	32.6			0.7			Existing Line
	9702	3	118	402	29.3			2.1			Existing Line
	9702	4	15	104	14.4			0			Existing Line/Mankato Southern Route
	9702	5	116	346	33.5			0.7			Mankato Southern Route
	9703	1	208	424	49		X	5.4			Existing Line
	9703	2	147	434	33.8			0			Existing Line
	9703	3	168	426	39.4			0.4			Existing Line
	9706	1	224	390	57.4	X	X	4.5			Existing Line
	9706	2	318	411	77.3	X	X	1.5			Existing Line
	9706	3	141	320	44			13.4		X	Existing Line
	9707	4	276	405	68	X	X	0.8			Existing Line
	9707	6	231	463	49.8		X	6.7			Existing Line
	9708	1	163	406	40.1			3.8			Existing Line
	9708	2	92	256	35.9			0			Existing Line
	9708	3	83	378	21.9			0.5			Existing Line
	9708	4	92	759	12.1			2.4			Mankato Southern Route
	9709	3	157	466	33.6			2.3			Existing Line
	9709	4	94	321	29.2			1			Existing Line
	9709	5	103	301	34.2			0.4			Existing Line
	9712	6	275	559	49.1		X	6.3			Mankato Southern Route
	9713	6	127	400	31.7			1.4			Mankato Southern Route
	9713	7	93	405	22.9			0			Mankato Southern Route
	9713	8	69	322	21.4			0.7			Mankato Southern Route
	9806	4	80	304	26.3			5.7			Existing Line
Brown	9601	1	132	302	43.7			0.6			Existing Line
	9601	2	185	353	52.4	X	X	0			Existing Line
	9601	3	154	403	38.2			2.5			Existing Line
	9601	4	132	353	37.3			1.2			Existing Line
	9602	1	54	294	18.3			1.1			Existing Line
	9602	2	96	389	24.6			1			Existing Line
	9602	4	133	347	38.3			0			Existing Line
	9604	2	160	368	43.4			0.2			Existing Line
	9604	3	192	458	41.9			0.3			Existing Line
	9604	4	99	316	31.3			0			Existing Line
	9604	5	149	398	37.4			0.7			Existing Line
	9605	1	205	562	36.4			1.3			Existing Line
	9605	2	257	450	57	X	X	0.9			Existing Line
	9605	3	89	249	35.7			1.7			Existing Line
	9605	4	192	339	56.6	X	X	10.9		X	Existing Line
	9606	1	107	275	38.9			3.8			Existing Line
	9606	3	209	403	51.8	X	X	0.2			Existing Line
	9606	4	169	381	44.3			0.9			Existing Line
	9607	3	87	378	23			0			Existing Line
	9603	1	246	512	48		X	0			Existing Line
	9603	3	122	352	34.6			3			Existing Line
	9603	4	123	279	44			6.3			Existing Line
Olmsted	0001	1	346	566	61.1	X	X	0			Existing Line
	0001	2	219	262	83.5	X	X	13.4		X	Existing Line
	0002	1	113	312	36.2			2.7			Existing Line
	0002	2	282	734	38.4			13.4		X	Existing Line
	0002	3	105	332	31.6			0			Existing Line
	0002	4	187	435	42.9			26.7		X	Existing Line
	0002	5	112	301	37.2			3.1			Existing Line
	0003	1	88	214	41.1			0.2			Existing Line
	0005	1	220	467	22.1			22.2		X	Existing Line
	0005	2	300	623	48.1		X	3.8			Existing Line
	0005	3	325	622	52.2	X	X	10.2			Existing Line
	0006	1	149	366	40.7			2.7			Existing Line
	0006	2	89	247	36			27.7		X	Existing Line

Table N-1
Minnesota Census Blocks Affected by the Proposed Project

County	Tract	Block	Total # of Low-Income Households	Total # Of Households	% Low Income Households	At Least 50% Low Income ¹	Low Income 1.5% Rule ²	Minority Percentage	At Least 50% Minority Status ³	Minority 1.5% Rule ⁴	Project Component
	0006	3	128	444	28.8			4.4			Existing Line
	0006	4	388	850	45.6			5.1			Existing Line
	0007	1	140	884	15.8			2.4			Existing Line
	0007	2	130	305	42.6			4			Existing Line
	0007	3	101	372	27.1			3.2			Existing Line
	0008	9	NA	NA	NA			44.9			Existing Line
	0009	1	10	133	7.5			0		X	Existing Line
	0009	8	51	378	13.4			1.3			Existing Line
	0009	9	56	306	18.3			1.1			Rochester Bypass
	0012	4	16	506	3.1			0.3			Rochester Bypass
	0013	1	102	1181	8.6			3.8			Existing Line
	0014	2	122	655	18.6			1.4			Existing Line
	0014	3	0	26	0			0			Existing Line
	0018	1	92	402	22.8			0.7			Rochester Bypass
	0018	2	81	446	18.1			2.1			Existing Line/Rochester Bypass
	0019	6	34	193	17.6			0			Existing Line
	0020	1	91	392	23.2			0.1			Rochester Bypass
	0020	3	113	317	30.3			0.2			Existing Line/Rochester Bypass
	0020	4	162	540	30			0.7			Existing Line/Rochester Bypass
	0021	1	117	373	31.3			2.5			Rochester Bypass
	0022	1	75	295	25.4			0.7			Rochester Bypass
	0022	2	94	352	26.7			0.2			Rochester Bypass
	0022	3	72	283	25.4			0.5			Rochester Bypass
	0022	4	45	213	21.1			0.9			Rochester Bypass
Winona	9701	4	104	379	27.4			0.4			Existing Line
	9701	5	57	181	31.4			0			Existing Line
	9701	6	172	688	25			2.8			Existing Line
	9702	1	15	75	20			5.6			Existing Line
	9702	2	89	476	18.6			1.3			Existing Line
	9702	3	135	493	27.3			0			Existing Line
	9703	1	131	392	33.4			6.9			Existing Line
	9703	2	218	393	55.4	X	X	4			Existing Line
	9703	4	270	342	78.9	X	X	1.8			Existing Line
	9704	2	102	251	40.6			2.6			Existing Line
	9704	3	122	297	41			2.2			Existing Line
	9704	4	233	536	43.4			0.5			Existing Line
	9704	5	95	333	28.5			0			Existing Line
	9704	6	96	289	33.2			4.4			Existing Line
	9705	1	418	457	91.4	X	X	5			Existing Line
	9705	2	153	311	49.1			3.8			Existing Line
	9705	3	136	234	58.1	X	X	6.6			Existing Line
	9709	1	173	463	37.3			1.2			Existing Line
	9709	2	178	447	39.8			0.3			Existing Line
	9710	2	113	294	38.4			0.5			Existing Line
Steele	9710	3	138	414	33.3			4.6			Existing Line
	9710	4	108	325	33.2			0.1			Existing Line
	9710	5	104	276	37.6			1.3			Existing Line
	9601	3	83	347	23.9			0.2			Existing Line
	9602	3	172	594	58.9	X	X	8.9			Existing Line
	9602	4	84	331	25.3			8.1			Existing Line
	9603	6	118	399	29.5			1.6			Existing Line
	9604	1	169	317	53.3	X	X	4.5			Existing Line
	9604	2	143	411	34.7			8.1			Existing Line
	9604	3	127	492	25.8			5			Existing Line
	9604	4	143	328	43.5			18.1		X	Existing Line
	9605	5	106	428	24.7			0.3			Existing Line
	9607	5	108	430	25.1			3.1			Existing Line
Waseca	9901	1	207	458	45.1			1.8			Existing Line
	9901	2	109	298	36.5			0.9			Existing Line
	9901	3	118	358	32.9			1.4			Existing Line

Table N-1
Minnesota Census Blocks Affected by the Proposed Project

County	Tract	Block	Total # of Low-Income Households	Total # Of Households	% Low Income Households	At Least 50% Low Income ¹	Low Income 1.5% Rule ²	Minority Percentage	At Least 50% Minority Status ³	Minority 1.5% Rule ⁴	Project Component
	9903	1	78	245	31.8			1			Existing Line
	9903	3	23	49	46.9		X	3			Existing Line
	9904	2	141	331	42.5			3.2			Existing Line
	9904	4	79	285	27.7			0.3			Existing Line
	9904	5	123	357	34.4			4.2			Existing Line
	9905	1	157	457	34.3			3.9			Existing Line
	9905	2	147	555	26.4			1.1			Existing Line
	9905	3	169	236	71.6	X	X	0			Existing Line
	9905	4	54	260	20.7			0			Existing Line
Dodge	9501	2	72	308	23.3			0.6			Existing Line/Rochester Bypass
	9501	3	119	404	29.4			1.1			Existing Line
	9502	4	55	282	19.5			0.6			Existing Line
	9502	5	124	374	33.1			1.4			Existing Line
	9502	6	202	505	40			6.4			Existing Line
	9503	6	69	238	28.9			1.5			Existing Line
	9503	7	104	287	36.2			1.1			Existing Line
	9504	1	135	518	26			0.5			Existing Line/Rochester Bypass
	9505	4	157	511	30.7			1.5			Existing Line
	9505	5	106	441	24			0.4			Existing Line
	9505	6	148	275	53.8	X	X	4			Existing Line
Lyon	9606	1	155	291	53.2	X	X	0.4			Existing Line
	9606	2	131	329	39.8			0			Existing Line
	9606	3	100	258	38.7			0.8			Existing Line
	9607	1	128	224	57.1	X	X	1.2			Existing Line
	9607	3	158	331	47.7		X	3.4			Existing Line
	9607	4	120	282	42.5			2.8			Existing Line
Lincoln	9502	1	188	393	47.8		X	0.2			Existing Line
	9502	2	106	219	48.4		X	0			Existing Line
	9502	3	92	205	44.8			2.2			Existing Line
	9502	4	195	326	59.8	X	X	0.3			Existing Line
	9502	5	74	187	39.5			0			Existing Line
Redwood	9505	3	62	202	30.6			1.6			Existing Line
	9505	4	176	327	53.8	X	X	0.7			Existing Line
	9506	1	221	388	56.9	X	X	0			Existing Line
	9506	2	99	232	42.6			2.9			Existing Line
	9506	3	131	272	48.1		X	0.9			Existing Line

1 - 50 percent of the census block groups have a household income equal to or lower than 1.5 times the Federal poverty level. The poverty level used in the analysis was from the 1989 median household income level for the United States (\$12,674). Households were considered low-income if they had a median income level of \$19,011, or less.

2 - The percentage of households of low-income status is higher than 1.5 times the percentage of households of low-income status in the State of Minnesota. The low-income level for Minnesota is 31 percent, thus 1.5 times the low-income level of Minnesota is 46.5 percent.

3 - 50 percent of the census block group is of minority status. Minorities included in this analysis are Black, Native American, Asian, Hispanic and Other.

4 - The percentage of minorities within the census block group is higher than 1.5 times the 1989 minority level of Minnesota. The minority level in Minnesota was calculated to be 6.6 percent. Census block groups with a minority percentage of 9.9 percent or more were considered environmental justice.

Table N-2
South Dakota Census Blocks Affected by the Proposed Project

County	Tract	Block	Total # of Low-Income Households	Total # Of Households	% Low Income Households*	At Least 50% Low Income ¹	Minority Percentage	At Least 50% Minority Status ²	Minority 1.5% Rule ³	Project Component
Hughes	9776	1	72	132	54.5	X	1			Existing Line
	9776	2	70	156	44.9		0.9			Existing Line
	9776	4	74	168	44		29.4		X	Existing Line/Pierre Bypass
	9777	2	74	228	32.5		4.7			Existing Line
	9777	3	106	315	33.7		16.9		X	Existing Line
	9777	4	234	676	34.6		5.4			Existing Line
	9777	5	73	357	20.4		3.2			Existing Line
	9778	3	62	237	26.2		1.5			Existing Line
	9778	4	77	298	25.8		5.3			Existing Line
	9778	2	63	311	20.3		5.9			Existing Line
	9778	5	165	432	38.2		16.2		X	Existing Line
	9778	1	218	514	42.4		11.3			Existing Line
	9779	3	183	321	57	X	13.9		X	Existing Line
	9779	2	170	269	63.2	X	11.2			Existing Line
	9779	1	1350	454	29.7		8.6			Existing Line
	9779	4	235	339	69.3	X	6.2			Existing Line
Hyde	9766	2	70	149	47.6		9.3			Existing Line
	9766	3	213	411	51.8	X	2.1			Existing Line
	9766	1	60	124	48.4		0			Existing Line
Stanley	9891	2	103	304	33.8		7.7			Existing Line/Pierre Bypass
	9891	3	211	451	46.8		7			Existing Line/Pierre Bypass
	9891	1	82	187	43.9		2.9			Existing Line/Pierre Bypass
Jackson	9911	1	63	166	37.9		6.9			Existing Line
Fall River	9941	5	50	108	46.3		5			Alternatives B
	9941	1	114	218	52.3	X	3.5			Alternatives B,C
	9941	3	53	107	49.5		1.3			Alternatives B,C
	9941	6	38	112	33.9		1			Alternatives B,C
Custer	9951	1	159	308	51.6	X	4.5			Alternative B,C
Brookings	9586	3	70	222	31.5		1.7			Existing Line/Brookings Bypass
	9586	5	121	286	42.3		1			Existing Line/Brookings Bypass
	9586	4	163	318	51.2	X	0.5			Existing Line
	9587	4	41	155	26.4		2.7			Brookings Bypass
	9587	5	213	523	40.7		0.6			Existing Line/Brookings Bypass
	9587	6	48	133	36		0			Existing Line/Brookings Bypass
	9587	8	34	176	19.3		0			Existing Line
	9588	4	211	350	60.2	X	6.7			Existing Line
	9588	1	292	505	57.8	X	2.8			Existing Line/Brookings Bypass
	9588	2	138	395	34.9		2.9			Existing Line
	9588	3	166	362	45.8		3.5			Existing Line
	9588	5	498	694	71.7	X	2.1			Existing Line
	9589	1	44	94	46.8		3.9			Brookings Bypass
	9589	2	576	919	62.6	X	5.2			Existing Line
	9589	3	146	300	48.6		0.9			Existing Line
	9589	4	166	337	49.2		0			Existing Line
	9589	5	47	385	12.2		0			Existing Line
	9589	6	232	621	37.3		2.9			Existing Line
	9589	7	246	539	45.6		5.2			Existing Line
Beadle	9566	4	21	58	36.2		0			Existing Line
	9566	3	76	178	42.6		0			Existing Line

Table N-2
South Dakota Census Blocks Affected by the Proposed Project

County	Tract	Block	Total # of Low-Income Households	Total # Of Households	% Low Income Households*	At Least 50% Low Income ¹	Minority Percentage	At Least 50% Minority Status ²	Minority 1.5% Rule ³	Project Component
	9567	3	104	166	62.6	X	0.5			Existing Line
	9567	4	12	44	27.2		0			Existing Line
	9567	6	94	246	38.2		0.8			Existing Line
	9568	3	126	270	46.6		2.8			Existing Line
	9568	2	186	317	58.6	X	2.4			Existing Line
	9568	1	100	195	51.2	X	0.5			Existing Line
	9569	4	251	491	51.1	X	7.9			Existing Line
	9569	3	96	234	41		3.8			Existing Line
	9569	2	161	348	46.2		2.3			Existing Line
	9569	1	159	368	43.2		0.9			Existing Line
	9570	4	202	527	38.3		2.9			Existing Line
	9570	3	230	440	52.2	X	1.5			Existing Line
	9571	2	136	395	34.4		2			Existing Line
	9571	1	37	48	77	X	1.7			Existing Line
Haakon	9901	4	96	261	36.7		2.8			Existing Line
	9901	3	15	572	2.6		2.6			Existing Line
	9901	2	93	194	47.9		0.4			Existing Line
Pennington**	116	1	77	173	44.5		1.6			Existing Line/Alternatives B,C
	116	2	140	363	38.5		3.1			Existing Line/Alternatives B,C
	116	3	104	256	40.6		0.4			Alternatives B,C
Jones	9916	2	24	58	41.3		1.1			Existing Line
Kingsbury	9581	4	221	366	60.3	X	0.8			Existing Line
	9581	3	50	112	44.6		0.7			Existing Line
	9582	3	68	133	51.1	X	0.5			Existing Line
	9582	5	131	255	51.3	X	0.2			Existing Line
	9582	4	151	317	47.6		0.1			Existing Line
	9581	5	234	422	55.4	X	0.4			Existing Line
Hand	9757	2	217	437	49.6		0.6			Existing Line
	9757	1	68	110	61.8	X	0.4			Existing Line
	9757	3	186	360	51.6	X	0.3			Existing Line
	9756	6	49	108	45.3		0			Existing Line
	9756	5	46	88	52.2	X	0			Existing Line

¹ - 50 percent of the census block groups have a household income equal to or lower than 1.5 times the Federal poverty level. The poverty level used in the analysis was from the 1989 median household income level for the United States (\$12,674). Households were considered low-income if they had a median income of \$19,011 or less.

² - 50 percent of the census block groups are of minority status. Minorities included in this analysis are Black, Native American, Asian, Hispanic and Other.

³ - The percentage of minorities within the census block group is higher than 1.5 times the 1989 minority level of South Dakota. The minority level in South Dakota was calculated to be 9.1 percent. Census block groups with a minority percentage of 13.7 percent or more were considered to be environmental justice.

*The second criteria for classification as low-income was that the percentage of low-income households within the census block group is higher than 1.5 times the percentage of low-income households in the state. The percentage of low-income households in South Dakota (44 percent) times 1.5 is 66 percent. Thus, further assessment was not necessary because this level exceeded the 50 percent criteria.

**SEA identified two additional census block groups in Custer County and 29 in Pennington County that were affected by proposed Alternative D. Further analysis of these census blocks was not conducted since Alternative D was eliminated from consideration.

Table N-3
Wyoming Census Blocks Affected by the Proposed Project

County	Tract	Block	Low Income Households	Total Households	% Low Income Households*	At Least 50% Low Income ¹	Minority Percentage	At Least 50% Minority Status ²	Minority 1.5% Rule ³	Project Component
Converse	9561	1	20	20	100	X	8.3			Alternatives B,C
Weston**	9511	4	42	151	27.8		2.8			Alternatives B,C
	9511	5	0	9	0		0			Alternatives B,C
	9511	6	8	20	40		0			Alternatives B,C
	9511	7	0	19	0		2.5			Alternative B
	9511	8	0	20	0		0			Alternatives B,C
Niobrara	9571	1	25	51	49		0			Alternatives B,C
	9572	1	0	14	0		0			Alternatives B,C
Campbell**	9528	1	32	219	14.6		1.6			Alternatives B
	9528	2	0	3	0		0			Alternatives B,C
	9528	3	0	23	0		0			Alternatives B,C
	9529.98	1	2	42	4.7		3.1			Alternatives B,C
	9529.98	5	0	6	0		0			Alternatives B,C
	9529.98	6	0	10	0		0			Alternatives B,C

1 - 50 percent of the census block groups has a household income equal to or lower than 1.5 times the Federal poverty level. The poverty level used in the analysis was from the 1989 median household income level for the United States (\$12,674). Households were considered low-income if they had a median income of \$19,011 or less.

2 - 50 percent of the census block groups are of minority status. Minorities included in this analysis are Black, Native American, Asian, Hispanic and Other.

3 - The percentage of minorities within the census block group is higher than 1.5 times the 1989 minority level of Wyoming. The minority level in Wyoming was calculated to be 10.7 percent. Census block groups with a minority percentage of 16.5 percent or more were considered environmental justice.

*The second criteria for classification as low-income was met if the percentage of low-income households within the census block group is higher than 1.5 times the percentage of low-income households for the state. The percentage of low-income households in Wyoming (36 percent) times 1.5 is 54 percent. Thus, further assessment was not necessary because this level exceeded the 50 percent criteria.

**SEA identified 10 additional census block groups in Weston County, 2 in Campbell County and 3 in Crook County that were affected by proposed Alternative D. Further analysis on these census blocks was not conducted since Alternative D was eliminated from consideration.

Table N-4
Summary of Environmental Justice Census Block Groups
by Alignment and Community - Minnesota

County	Tract	Block Group	Alignment	Community
Winona	9703	2	Existing	Winona
	9703	4	Existing	Winona
	9705	1	Existing	Winona
	9705	2	Existing	Winona
	9705	3	Existing	Winona
Olmsted	1	1	Existing	Rochester
	1	2	Existing	Rochester
	2	2	Existing	Rochester
	2	4	Existing	Rochester
	5	1	Existing	Rochester
	5	2	Existing	Rochester
	5	3	Existing	Rochester
	6	2	Existing	Rochester
	8	9	Existing	Rochester
Steele	9602	3	Existing	Owatonna
	9604	1	Existing	Owatonna
	9604	4	Existing	Owatonna
Blue Earth	9703	1	Existing	Mankato
	9706	1	Existing	Mankato
	9706	2	Existing	Mankato
	9706	3	Existing	Mankato
	9707	4	Existing	Mankato
	9707	6	Existing	Mankato
	9712	6	Mankato Bypass	Mankato
Dodge	9505	6	Existing	Kasson
Waseca	9903	3	Existing	Rural
	9905	3	Existing	Waseca
Brown	9601	2	Existing	New Ulm
	9603	1	Existing	New Ulm
	9605	2	Existing	Sleepy Eye
	9605	4	Existing	Sleepy Eye
	9606	3	Existing	Springfield
Lincoln	9502	1	Existing	Tyler
	9502	2	Existing	Tyler/Rural
	9502	4	Existing	Lake Benton/Rural
Lyon	9606	1	Existing	Balaton
	9607	1	Existing	Tracy
	9607	3	Existing	Tracy
Redwood	9505	4	Existing	Walnut Grove
	9606	1	Existing	Lamberton
	9606	3	Existing	Sanborn

Table N-5
Summary of Environmental Justice Census Block Groups
by Alignment and Community - South Dakota

County	Track	Block Group	Alignment	Community
Brookings	9586	4	Existing	Elkton
	9588	4	Existing	Brookings
	9588	1	Existing/Brookings Bypass	Brookings
	9588	5	Existing	Brookings
	9589	2	Existing	Brookings
Beadle	9567	3	Existing	Wessington
	9568	2	Existing	Huron
	9568	1	Existing	Huron
	9569	4	Existing	Huron
	9570	3	Existing	Huron
	9571	1	Existing	Huron
Hyde	9766	3	Existing	Highmore
Hughes	9776	1	Existing	Harrold
	9776	4	Existing/Pierre Bypass	Pierre
	9777	3	Existing	Pierre
	9778	5	Existing	Pierre
	9779	2	Existing	Pierre
	9779	3	Existing	Pierre
	9779	4	Existing	Pierre
Fall River	9941	1	B and C	Rural
Kingsbury	9581	4	Existing	Lake Preston
	9581	5	Existing	Arlington
	9582	3	Existing	Iroquois
	9582	5	Existing	De Smet
Hand	9756	5	Existing	Rural
	9757	1	Existing	St. Lawrence
	9757	3	Existing	Miller
Custer ¹	9951	1	Alternative B	Hermosa/Rural
	9951	1	Alternative C	Fairburn/Rural

¹ SEA identified one environmental justice census block group in Custer County to be affected by both proposed Extension Alternatives (Alternatives B and C). Because each Alternative follows different alignments, Hermosa and Fairburn Counties would potentially be affected.

Table N-6
Summary of Environmental Justice Census Block Groups
by Alignment and Community - Wyoming

County	Tract	Block Group	Alignment	Community
Converse	9561	1	Alternatives B and C	Rural

Table N-7
Environmental Justice Census Block Groups Disproportionately Impacted by Noise Increases

Census Block	Existing Conditions	20 MNT		50 MNT		100 MNT	
	Wayside w/Horn	Wayside w/Horn	% Increase	Wayside w/Horn	% Increase	Wayside w/Horn	% Increase
Olmsted County							
271090002.002	0	35	-	41	-	41	-
County Total	157	225	43	392	150	646	311
Steele County							
271479602.003	2	11	450	50	2400	50	2400
County Total	68	82	21	189	178	266	291
Brown County							
270159601.001	1	5	400	79	7800	106	10500
270159606.003	11	11	0	26	136	41	272
County Total	41	150	266	241	488	502	1124
Lyon County							
270839606.001	0	1	-	3	-	15	-
270839607.003	0	0	0	10	-	10	-
County Total	1	9	800	42	4100	70	6900
Redwood County							
461179505.004	0	6	-	18	-	42	-
961179506.001	0	2	-	17	-	22	-
961179506.003	0	0	0	4	-	33	-
County Total	6	10	66	51	750	136	2166
Kingsbury County							
460779581.004	0	7	-	22	-	43	-
460779581.005	0	0	0	6	-	23	-
460779582.005	0	9	-	15	-	22	-
County Total	0	36	-	113	-	171	-
Beadle County							
460059567.003	0	3	-	9	-	11	-
County Total	1	17	1600	31	3000	94	9300
Hand County							
460599757.001	1	2	100	4	300	10	900
460599757.003	0	12	-	27	-	51	-
County Total	3	21	600	47	1467	86	2767
Hyde County							
460699766.003	0	1	-	7	-	9	-
County Total	0	1	-	9	-	11	-
Hughes County							
460659778.005	0	0	0	3	-	56	-
460659779.002	0	0	0	0	0	22	-
460659779.004	0	1	-	17	-	53	-
County Total	0	37	-	92	-	202	-

Table N-8
Environmental Justice Census Block Groups Disproportionately Impacted by
Reduced Grade Crossing Safety

County	Census Block	MNT	Grade Crossing Number	Location
Olmsted	271090006.002	50,100	193277D	Broadway St., Rochester
Blue Earth	270139703.002	50,100	193459P	3rd Ave, Mankato
Brown	270159605.004	100	193553D	9th Ave SE, Sleepy Eye
Brown	270159606.003	50,100	193616F	O'Connell Ave, Springfield
Brown	270159606.004	50,100	193616F	O'Connell Ave, Springfield
Lincoln	270819502.004	100	193802G	Benton St., Lake Benton
Brookings	460119586.004	50,100	193786A	Elk St., Elkton
Brookings	460119586.004	100	193789V	SD HWY 13, Elkton
Brookings	460119588.004	50,100	197481R	Main Ave, Brookings
Brookings	460119588.005	100	197480J	Medary Ave, Brookings
Beadle	460059568.001	20,50,100	189702V	US HWY 14, Huron
Beadle	460059568.002	50,100	189698H	Dakota Ave, Huron
Beadle	460059568.001	50,100	189710N	Lincoln Ave, Huron
Beadle	460059568.002	100	189696U	Simmons Ave, Huron
Beadle	460059567.003	20,50,100	189731F	Wessington St., Wessington
Hyde	460699766.003	100	189781J	Commercial, Highmore
Hand	460599757.003	100	189755U	3rd St., Miller
Hand	460599757.003	100	189756B	Broadway/HWY 47, Miller
Hughes	460659776.001	20,50,100	189801T	Wyman Ave, Harrold
Hughes	460659779.002	20,50,100	189844L	Harrison, Pierre
Hughes	460659779.003	20,50,100	189848A	HWY 14/34, Pierre
Hughes	460659779.002	50,100	189842X	Lowell Rd, Pierre
Hughes	460659779.002	50,100	189845T	Monroe, Pierre
Hughes	460659779.003	50,100	189847G	Ree St, Pierre
Hughes	460659779.003	100	189848N	Highland Ave, Pierre
Hughes	460659779.003	100	189850P	Central St, Pierre
Fall River	460479941.001	100		Old US HWY 18
Kingsbury	460779581.005	20,50,100	197508X	450th Ave, Arlington
Kingsbury	460779581.005	100	197454U	4th St. N., Arlington
Kingsbury	460779581.005	100	197452F	Main St, Arlington
Kingsbury	460779581.004	20,50,100	197521L	Main St, Lake Preston
Kingsbury	460779581.004	20,50,100	197523A	441st Ave, Lake Preston
Kingsbury	460779581.004	100	197519K	Park Ave, Lake Preston
Kingsbury	460779581.004	50,100	197520E	Lake Ave, Lake Preston
Kingsbury	460779581.005	20,50,100	197456H	Calumet Ave, De Smet
Kingsbury	460779582.005	50,100	197685C	Lyle Ave, De Smet
Kingsbury	460779582.003	100	197697W	Ottawa St, Iroquois